

Chemisnow[®]

Functional spherical fine particles
with infinite potential

Soken Chemical & Engineering's "Chemisnow," fine particles
manufactured by spheroidizing acrylic and styrene using the
unique polymerization technology

Chemisnow[®] is the brand name for a range of functional spherical fine particles developed by Soken Chemical & Engineering Co., Ltd. through its unique polymerization technology. Chemisnow[®] is based on methyl methacrylate, styrene and their copolymer, and manifests various properties by controlling a degree of cross-linkage or a functional groups. With the use of these properties, acrylic fine particles can be used for light diffusing agent, matting agent, anti-blocking agent for films, finish appearance enhancement agent, fluidity adjusting agent, and other applications. In addition, styrene fine particles can be used for low shrinkage agent for resins, matting agent and light diffusing agent, and other applications. When this product is added to and mixed with your base material, a new function is provided. Consequently, it can be used in a wide variety of applications.

Features of Functional Spherical Fine Particles "Chemisnow[®]"

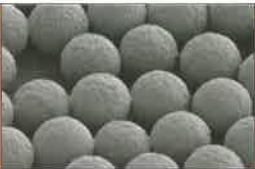
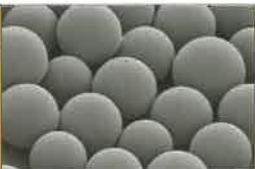
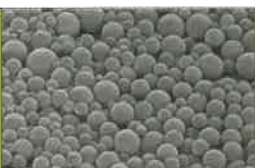
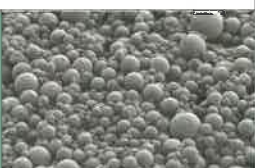
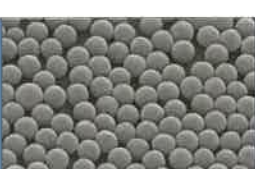
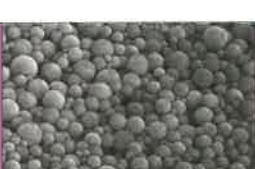
1. Spherical fine particles.
2. Controllable average particle size and granulometric distribution.
3. Primary particles with less mutual flocculation.
4. Excellent transparency.
5. Weather resistance.
6. High dispersibility in solvents.
7. Less residual carbon after sintering.



Properties	Effect	Application	Name of series
Light diffusion	Light diffusion Anti-glare Soft focus Matte	Light diffusion sheet	MX
		Light diffusion plate	SX
		AG films	MZ
		Paints	MR
		Cosmetics	KMR • KSR MP
Roughness	Anti-blocking	Various types of films	MX
			MZ
			MR
Touch	Soft feeling and improving the touch feeling	Paints	MX
			MZ
			MR
Fluidity	Fluidity adjustment, thixo adding, improved viscosity	Cosmetics	MP
		Toner Paints and inks	
Electrostatic propensity	Electrification control	Toner	MP
Low shrinkage	Low shrinkage agent for FRP	BMC,SMC	SGP
Burning property	Vacancy formation	Ceramics agent	MX
			MZ
			MR
			MP

Series of functional fine particles "Chemisnow[®]"

Average particle size range (μm)

Series name		Major composition	Degree of cross-linkage	Particle size distribution	Average particle size range (μm)
MX series		Acrylic	Standard to high	Mono-dispersion	0.8 to 30
MZ series		Acrylic	Ultrahigh	Middle-dispersion	5 to 30
MR series		Acrylic	Standard to high	Wide-dispersion	1 to 10
KMR series		Acrylic	Ultrahigh	Wide-dispersion	3
KSR series		Styrene	Standard	Wide-dispersion	3
MP series		Acrylic	None	Mono-dispersion	0.15 to 0.4
SX series		Styrene	Standard	Mono-dispersion	1.3 to 5.0
SGP series		Styrene	Low to standard	Wide-dispersion	20, 55

MX series

Cross-linked acrylic mono-dispersing particles

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
MX-80H3 wT	0.8	High
MX-150	1.5	Standard
MX-180TA	1.8	Standard
MX-300	3	Standard
MX-500	5	Standard
MX-1000	10	Standard
MX-1500H	15	High
MX-2000	20	Standard
MX-3000	30	Standard

Properties

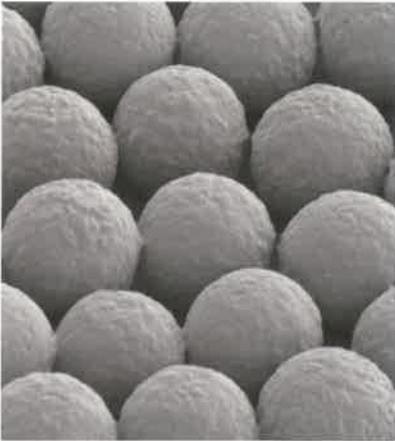
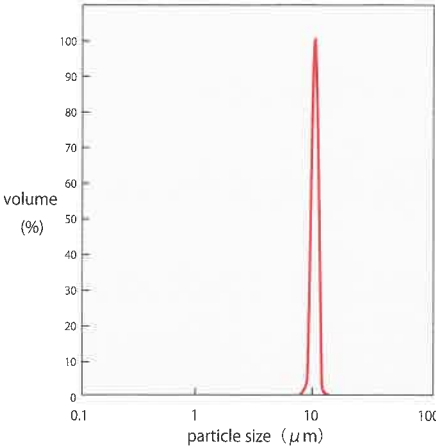
True specific gravity	1.19	(Theoretical value)
Apparent density (g/ml)	0.69	(Reference value: MX-1000)
Refractive index	1.49	(Theoretical value)
CV value (%)	9	(Reference value)
Decomposition temperature (°C)	250 ~ 270	(Reference value: 10% thermal decomposition temperature in air) ※MX-180TA : 300-330°C

Features

- Acrylic particles that have a narrow particle size distribution.
- Arbitrarily controlled particle sizes in an range of 0.4 to 30 μm.
- Have heat and solvent resistance due to their cross-linkage structure.

MX-1000

Particle size distribution chart



MZ series

Cross-linked acrylic middle-dispersing particles

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
MZ-5HN	5	Ultrahigh
MZ-8HN	8	Ultrahigh
MZ-10HN	10	Ultrahigh
MZ-12H	12	Ultrahigh
MZ-16H	16	Ultrahigh
MZ-20HN	20	Ultrahigh
MZ-30H	30	Ultrahigh

Properties

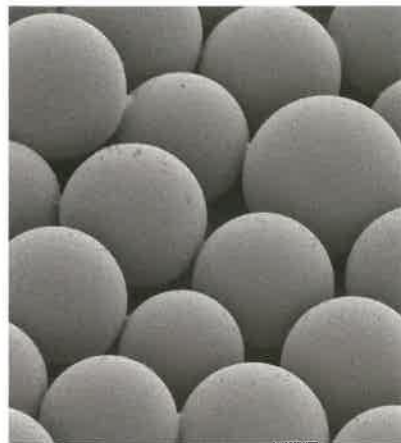
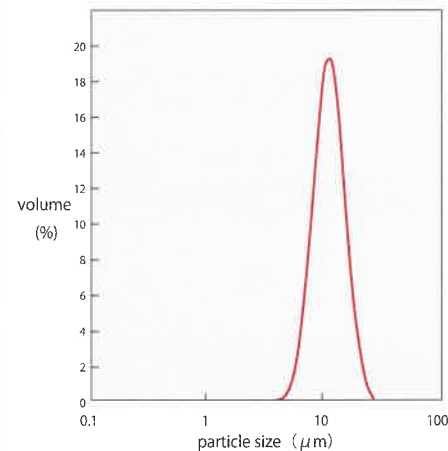
True specific gravity	1.19	(Theoretical value)
Apparent density (g/ml)	0.71	(Reference value: MZ-10HN)
Refractive index	1.49	(Theoretical value)
CV value (%)	30 or less	(Reference value)
Decomposition temperature ($^{\circ}\text{C}$)	230 to 260	(Reference value: 10% thermal decomposition temperature in air)

Features

- Acrylic particles that have a relatively narrow particle size distribution.
- Arbitrarily controlled particle sizes in an range of 5 to 30 μm .
- Have heat and solvent resistance due to their cross-linkage structure.

MZ-10HN

Particle size distribution chart



MR series

Cross-linked acrylic Wide-dispersing particles

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
MR-1HG	1	High
MR-2G	1	Standard
MR-5C	6	None
MR-7GC	6	Standard
MR-10G	10	Standard

Properties

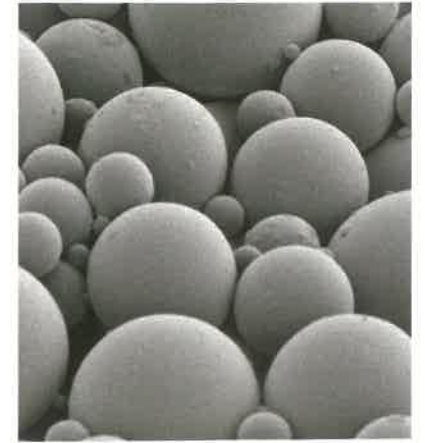
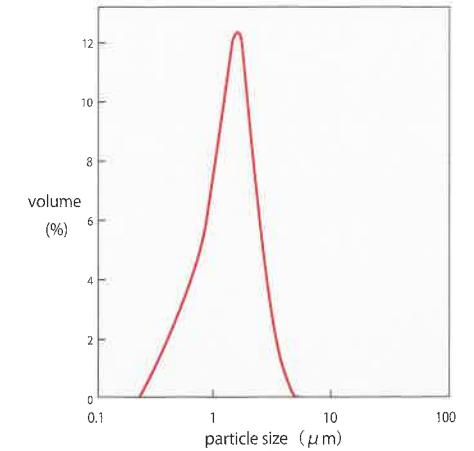
True specific gravity	1.19	(Theoretical value)
Apparent density (g/ml)	0.66	(Reference value: MR-10G)
Refractive index	1.49	(Theoretical value)
CV value (%)	50 or more	(Reference value)
Decomposition temperature ($^{\circ}\text{C}$)	270 to 290	(Reference value: 10% thermal decomposition temperature in air)

Features

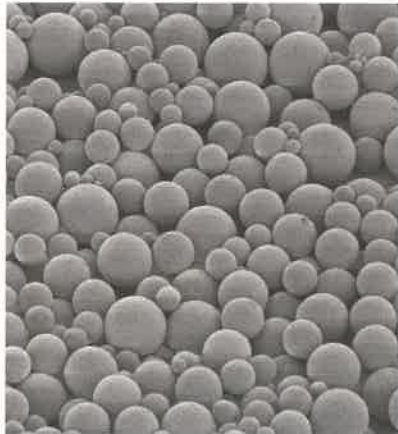
- Arbitrarily controlled particle sizes in an range of 1 to 10 μm .
- Have heat and solvent resistance due to their cross-linkage structure.
- Have a grade that can be used as a cosmetic material. (MR-5C and MR-7GC)

MR-1HG

Particle size distribution chart



KMR-3TA



KMR series

Cross-linked acrylic
wide-dispersing high-heat resistance grade

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
KMR-3TA	3	Ultrahigh

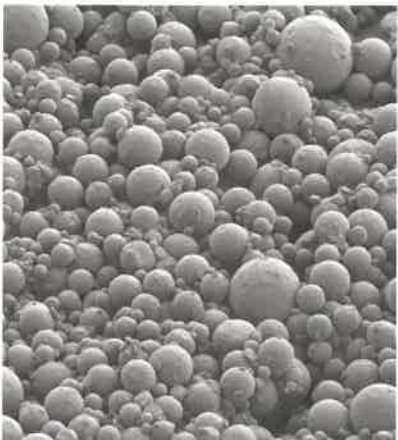
Properties

True specific gravity	1.19	(Theoretical value)
Refractive index	1.49	(Theoretical value)
Decomposition temperature ($^{\circ}\text{C}$)	290 to 300	(Reference value: 10% thermal decomposition temperature in air)

Features

- Acrylic particles that are excellent in heat resistance (decomposition and yellowing).
- Excellent in solvent resistance.

KSR-3



KSR series

Cross-linked styrene
wide-dispersing high-heat resistance grade

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
KSR-3A	3	Standard

Properties

True specific gravity	1.05	(Theoretical value)
Refractive index	1.59	(Theoretical value)
Decomposition temperature ($^{\circ}\text{C}$)	280 to 300	(Reference value: 10% thermal decomposition temperature in air)

Features

- Styrene particles that are excellent in heat resistance (decomposition and yellowing).

MP series

Non-crosslinked acrylic particles

Grade

Product name	Average particle size (μm)	Electrostatic propensity
MP-1451	0.15	—
MP-2801	0.2	+
MP-2200	0.35	—
MP-1000	0.4	—
MP-2701	0.4	+

The electrostatic propensity value refers to a value by means of blow-off measurement with carrier for xerography.

Properties

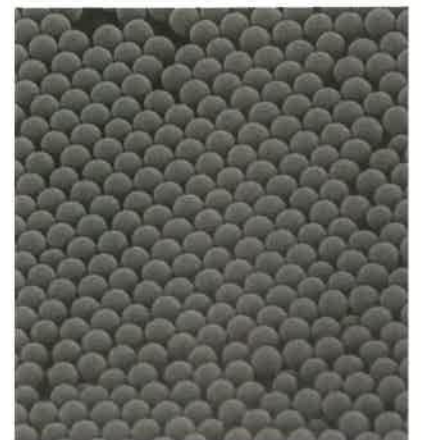
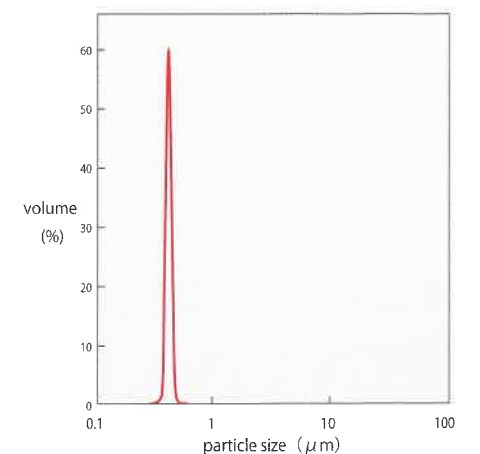
True specific gravity	1.19	(Theoretical value)
Apparent density (g/ml)	0.08 to 0.30	(Reference value)
Tg ($^{\circ}\text{C}$)	128	(Reference value)

Features

- Acrylic particles that have a narrow granulometric distribution.
- Arbitrarily controlled particle sizes in an range of 0.15 to 0.4 μm .
- Acrylic particles that have a smaller average particle size than other series.
- Have a grade that can be used as a cosmetic material. (MP-2200)

MP-1000

Particle size distribution chart



SX series

Cross-linked styrene mono-dispersing particles

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
SX-130H	1.3	Standard
SX-350H	3.5	Standard
SX-500H	5.0	Standard

Properties

True specific gravity	1.05	(Theoretical value)
Refractive index	1.59	(Theoretical value)
CV value (%)	11	(Reference value)
Decomposition temperature ($^{\circ}\text{C}$)	260 to 300	(Reference value: 10% thermal decomposition temperature in air)

Features

- Styrene particles that have a narrow particle size distribution.
- Arbitrarily control particle sizes in an range of 1.3 to 5.0 μm .
- Have heat and solvent resistance due to their cross-linkage structure.

SGP series

Cross-linked styrene wide-dispersing particles

Grade

Product name	Average particle size (μm)	Degree of cross-linkage
SGP-70C	20	Low
SGP-150C	55	Standard

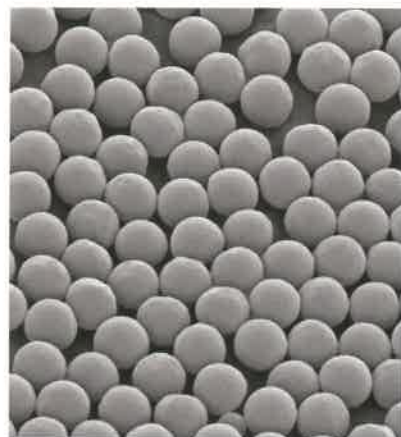
Properties

True specific gravity	1.05	(Theoretical value)
CV value (%)	40	(Reference value)

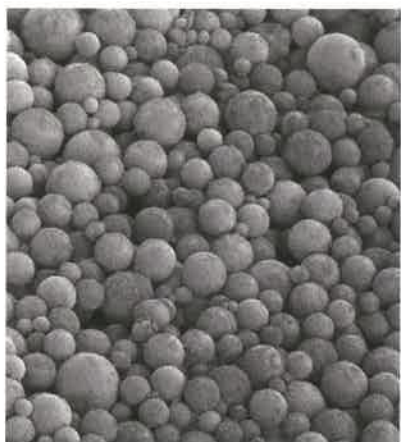
Features

- Styrene particles that have a wide particle size distribution.
- Can be used for low shrinkage agent for FRP (BMC/SMC) due to their proper swelling to styrene monomer.

SX-350H



SGP-70C



Soken Chemical & Engineering Co.,Ltd.

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- You should ensure to read the material safety data sheet (MSDS) for safety information on the products.